Social Innovation for Food Systems Transformation:

Lessons from the TUKFS programme

Ian Vickers | Fergus Lyon | Katerina Psarikidou | Alise Kirtley

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Corresponding authors: Ian Vickers (i.vickers@mdx.ac.uk) and Fergus Lyon (f.lyon@mdx.ac.uk).

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Ian Vickers Centre for Enterprise, Environment & Development Research (CEEDR), Middlesex University, London, UK

Fergus Lyon CEEDR, Middlesex University, London, UK

Katerina Psarikidou Science Policy Research Unit (SPRU), University of Sussex, Falmer, Brighton, UK

Alise Kirtley Graduate Researcher with UK Food Systems Centre for Doctoral Training (UKFSCDT), University Of Sussex

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Executive summary

Context and approach to the research

The scale of change needed to transform the UK food system for health, sustainability and social justice requires fresh thinking that goes beyond reliance on big science and market-led innovation. This report examines the concept of social innovation by reviewing its practice and potential in relation to the Transforming UK Food Systems (TUKFS) research programme. Social innovation involves new strategies, practices, organisational designs and collaborations that address unmet social needs and failures of state and market-led provision. As a multi-stakeholder process and mode of governance, social innovation aims to be more inclusive, participatory and attuned to social wellbeing concerns compared to innovation that is primarily motivated by private profit.

The qualitative research approach adopted for this study included a desk-based review of the literature and documentary evidence, semi-structured interviews with academic researchers and practice partners from 12 TUKFS projects, and a workshop held with TUKFS programme participants. Given that innovation for transformative change requires collaboration between multiple actors in the civil society, private and public sectors, the analysis is informed by an institutional logics perspective. Put simply, institutional logics are the norms, rules and practices that variously shape organisational cultures and the behaviour of individuals in diverse settings.

We specifically examine the potential of interdisciplinary research and 'hybrid' - or cross-sectoral - organising and collaboration as drivers of social and systemic innovation. The report identifies a number of implications for policy support and for the design and conduct of future transdisciplinary research that seeks to further societal and environmental wellbeing.

Understandings of social innovation and its relevance to TUKFS projects

Although the term social innovation (SI) was unfamiliar to many interviewees, it was found to have relevance to most of the 12 participating projects, including some with a focus on sci-tech and business process innovation related to new food products.

Among the projects where SI had particular relevance it was seen as a concept that usefully questions the limitations of sci-tech- and market-led innovation by supporting a more 'bottom-up' understanding of inclusive innovation for public/social benefit. As an engaging buzzword, SI can help widen the scope of policy thinking and legitimate a broader range of interventions for the common good. Some participants, however, were concerned and sometimes sceptical towards SI as a nebulous and ill-defined concept and saw a danger of it being over-evangelised as a panacea in contexts where it may be less applicable.

Overall, the views of participants reflect the complexity and malleability of the SI concept and the varied perceptions of its relevance and potential. Rather than social innovation being an alternative to sci-tech based innovation, the concept of systemic innovation which combines responsible sci-tech with social innovation may best capture the philosophical approach underpinning many of the TUKFS projects.

Social innovation practice and potential

Three main areas (or dimensions) of social innovation practice and potential - which were often overlapping and mutually supportive - were identified across the 12 TUKFS projects: (i) Social enterprise and hybrid business models; (ii) Education and behaviour change; (iii) Systemic and collaborative (place-based) approaches.

(i) Social enterprise and hybrid business models

Social enterprise (SE) as a mixed purpose or hybrid business form can be seen as a social innovation in its own right, particularly when introduced into new contexts and requiring adaptive re-design of structures for collective ownership and governance. The creation of or potential for new social or hybrid business start-ups was found in half the project cases, examples of which include:

- A new community interest company specifically created to act as an umbrella organisation that is co-owned with the project's industry partners and stakeholders, including farmers, traders, processors and food technologists.
- A social enterprise box scheme to support an organic farm and low cost hydroponics as part of a values-based food chain for urban horticulture at scale.
- A community shared ownership SE for local authority and school food supply.

Over half the projects were working with established SEs to help them develop new or existing services and processes, including:

- A number of SEs delivering therapeutic services and social prescribing, for example using market gardening and social cookery classes that promote healthy nutrition and seasonal, organic and locally produced food.
- A community interest company serving healthy and sustainable takeaway food in a deprived multi-ethnic area with a 'pay what you can afford' social business model.
- Developing the research capacity of SE project partners by training community researchers to conduct research alongside academics.

(ii) Education and behaviour change

Most of the projects aim to have a positive influence on peoples' dietary habits within diverse settings and upon wider patterns of consumption and production. The approaches taken range from 'low agency' interventions to 'nudge' consumer choice, to those which seek to more directly engage and 'educate' through a variety of activities and services. Examples include:

- Collaborating with primary and secondary schools to design curriculums that encourage healthier and more sustainable food choices.
- Adapting food environments in early years and school settings by trialling a range of menus and improving the dining culture and experience.
- Strategic design of weekly menus to promote healthier food choices in school and hospital canteens, and exploring the potential of extending this approach to commercial food outlets.
- Social enterprise approaches to engage and educate about healthy diets and sustainability within diverse areas of provision, e.g. health, fitness and recreation services, organic growing/horticulture and therapeutic services (social prescribing).
- Games designed to introduce children (and parents) in fun and engaging ways to the environmental and nutritional impacts of different food items and to develop holistic understanding ('farm to fork') of the wider food system and the value of alternative sources of protein and fibre as part of a healthy and sustainable diet.

(iii) Systemic and collaborative/place-based approaches

Many of the projects take a broadly systemic approach which is closely linked to new collaborations with a range of practice and policy partners and sometimes with a focus on a particular city or region. This can be seen to link with the governance dimension of social innovation in soliciting and orchestrating the contributions of multiple actors as well as the notion of a joined-up ecosystem of support provision and governance for agri-food and health/wellbeing related SI.

New interdisciplinary collaborations between academics from across the natural and social sciences have been crucial to the innovative approaches of most of the projects. Also emphasised by many projects was their involvement of partners from industry, civil society and the public sector in the co-design and conduct of the research.

Credit: BeanMeals

The enabling of 'bottom-up' neglected voices and understanding the lived experiences of people as consumers and as users of community wellbeing services was a crucial innovative dimension in at least half the cases. The inclusion of the 'silent voice' of the environment and the biosphere as a neglected stakeholder was also implicit in the rationale and design of many projects.

Examples of applied systems, multi-actor and place-based approaches include:

- Supply chain development, including a vertically integrated business from farm selling direct to consumers and a regional alliance involving millers and bakers joined-up with farmers to support production of high quality grains with low inputs and processed locally.
- Low-cost hydroponics – looking at how this relatively low tech sustainable innovation can be integrated into the UK food system including by building its acceptance and interface with local communities.
- A city wide transport initiative for food delivery to disadvantaged communities - initially introduced during the Covid pandemic and subsequently developed as a strategic response to food poverty.
- Contributing to the development of other local/regional food plans, partnerships and multi-stakeholder networks, e.g. including local authorities and deliverers of public services, community organisations, small farmers and other industry stakeholders.

For innovation to be genuinely transformational, central and local government are key ‘top-down’ actors with the power to drive social and systemic innovation through financial investment, co-ordinated policy support and regulation. Examples of TUKFS projects engaging public sector actors to enable evidence-based policy development include:

- Procurement as a lever for change, including food hubs for provision of local healthy food within public/institutional catering and menu change in hospitals and schools.
- Changing farming practices through regulation and use of public money such as DEFRA’s Environmental Land Management Scheme.
- Exploring the potential of variable business rates based on health/ environmental criteria.
- Fiscal and trade policy measures to support supply chain innovations and industry-led initiatives - testing consumer responses to different options.

The innovative interventions underscore the crucial role of collaboration in enabling creative responses to the complex challenge of food systems transformation. They also demonstrate how SI is often needed to complement other types of innovation and to avoid the pitfalls of narrowly conceived ‘technical fix’ approaches, thus ensuring robust and (hopefully) viable contributions to the overall public and social purpose aims of the TUKFS programme.

Experiences of collaborative and cross-sectoral hybrid working

The findings reveal how TUKFS projects have provided novel transdisciplinary spaces that bring together the knowledge and diverse perspectives of academic researchers and partners from the civil society, private and public sectors. On the whole, interviewees spoke highly of their experiences and of the goodwill and constructive cooperation among project participants and other supportive stakeholders.

Equity and the equity related implications of interventions are a concern for all 12 projects, with some being particularly focused on disadvantaged groups and enabling the 'bottom-up' voices of community organisations, staff in institutional catering settings and smaller enterprises. In some cases, allocation of project funding to social enterprise partners has been essential to enabling their engagement in the co-design and delivery of the projects, including by shaping the research to address their own needs and strategic challenges.

Despite the evidence of the benefits of the new collaborative and cross-sectoral relationships, building effective learning partnerships based on mutual understanding and trust can be slow and sometimes frustrating, and requires commitment and time. Some participants reflected on how collaboration and co-creation can give rise to misunderstandings and tensions, given the multiple and sometimes divergent viewpoints involved in discussions and workshops.

Confusion and misunderstanding may simply arise from the different ways and styles of communicating, requiring patience and sensitivity to overcome. Given that more fundamental tensions may also arise from the plural mix of institutional logics and individual understandings and framings, project teams need to develop a collective-deliberative capacity to understand and learn from different perspectives. However, building effective learning partnerships based on trust requires skilled facilitation and time, and this needs to be recognised and adequately supported in future UKRI transdisciplinary research calls.

Scaling-up and diffusion for wider impact: institutional challenges and support needs

Social and systemic innovation includes the processes of scaling and diffusion of agri-food innovations. Participants identified a range of challenges and potential market/institutional and cultural barriers that they were variously seeking to address, including:

- How to create routes to market and stimulate effective demand for novel/alternative sources of protein and fibre.
- The affordability of local/organic food and the difficulty of small producers gaining access to supply chains and/or competing with large producers and retailers.
- Policy-regulatory complexity and rigidities, including government procurement policies that favour a small number of corporate players.

- How to engage and involve diverse communities in local food and related wellbeing initiatives, including disadvantaged and minoritised groups.
- How to measure and demonstrate contributions to social/environmental value for commissioners of public services and social/philanthropic funders.

Experiences of working with the public sector were often described in positive terms, and with a high level of cooperation and support, including from senior local authority officials in some cases. However, a significant number of the TUKFS agri-food innovations will likely require further support beyond the end of the project contracts in order to realise their potential for wider impact. This could variously require further financial investment, change to regulations and standard setting, and more joined-up strategic policy making.

It remains to be seen whether the policy stasis affecting food and wellbeing related areas of public policy in recent times is coming to an end. The recent change of government appears to bring greater scope for the development of 'smarter' evidence-based policy and support for SI, as called for by some TUKFS participants.

Given a more supportive national policy framework, the developing multi-stakeholder networks, supply chains and plans for local/regional food across the UK, to which TUKFs projects are making valuable contributions, appear well placed to respond to the challenges and future opportunities for transformational social and systemic agri-food innovation.

1. Introduction and background

1.1 Aims and objectives

Credit: Lisa Howard, University of Plymouth

This report examines the concept of social innovation by reviewing its practice and potential in the context of the Transforming UK Food Systems research programme. The idea of social innovation has garnered increasing interest from academics and policy makers as a way of responding to complex societal and environmental challenges. As a broad and malleable concept, it is used to denote new strategies, practices, organisational designs and collaborations that address new or unmet social needs and failures of state provision and market-led development. As a multi-actor process and mode of governance, social innovation aims to be more inclusive, participatory and attuned to social wellbeing concerns compared to innovation that is primarily motivated by private profit.

In his evidence to the Environmental Audit Committee in April 2023, Henry Dimbleby called for more attention to this area as people *"… get very excited about big science and forget about social science and social innovation"*.[1]

The UKRI Strategic Priorities Fund (SPF) Transforming UK Food Systems for Health People and a Healthy Environment (TUKFS) programme aims to place healthy people and environmental sustainability at its core. In responding to this call, the research projects funded by the TUKFS SPF programme have created novel interdisciplinary spaces that bring together the diverse practices and perspectives of academic researchers and partners from the civil society, private and public sectors. This Synergy study examines the experiences and opportunities arising from the TUKFS funded projects to explore:

1. The understandings of social innovation held by project participants, including perceived advantages and disadvantages of the term.
2. The agri-food innovations being developed and role of different kinds of social and systemic innovation.
3. The methodologies, collaborations and strategies used to further social innovation.
4. The factors encouraging and constraining social innovation for food systems transformation.

The report identifies a number of implications for policy support and for the design and conduct of future transdisciplinary research that seeks to further societal and environmental wellbeing.

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1. Oral evidence transcripts to Environmental Change and Food Security Inquiry 2023

1.2 Social innovation and the context of food systems transformation

Social innovation: definitions and concepts

The idea of social innovation has gained considerable interest within academia and among policy makers over the last decade or so (Moulaert et al., 2013; Ziegler et al, 2017). The term is generally used to describe new strategies, concepts, and organisations that address social needs and challenges of all kinds in areas such as health, education, community development, strengthening civil society, and environmental sustainability (Mulgan, 2006). Recent scholarly attention results in part from discontent with the mainstream understanding of innovation as largely involving the development of new products and processes which are market-led and technology based (Lyon, 2012; Barry, 2016; Ziegler et al, 2022).

It is important to note, however, the conceptual ambiguity and contested nature of the term (Bull et al., 2022; Purna and De Paoli, 2023). For instance, innovation that is sci-tech based or profit-led is also 'socially constructed' and can give rise to spill-over societal benefits, such as from information technology (van der Have and Rubalcaba, 2016). There are also other terms used to describe similar or overlapping concerns to those of advocates of SI and which variously argue the need for innovations and innovation processes that are:

- **responsible** (Stilgoe et al., 2013; Scherer and Voegtlin, 2020; Bacq and Aguilera, 2021);
- **inclusive** (Patiño-Valencia et al., 2022; Morales et al., 2023);
- **pro-poor** (Luiz et al., 2021) or frugal (Hossain, 2018);
- **grassroots** or sustainability-led (Seyfang and Smith, 2007; Kirwan et al., 2013; Smith and Stirling, 2018).

The **historical roots** of social innovation can be traced back to the middle ages (Sargant, 1858). As a normative and political concept, it is used with reference to socially reforming and revolutionary movements for democracy and related organising and constitutional reforms that aim to shift power relations and address the needs of the disadvantaged and disenfranchised (Chalmers, 2012; Bull et al., 2022; Purna and De Paoli, 2023). A frequently cited example is the growth of the cooperative movement following Robert Owen's community experiment in utopian socialism in 19th Century New Lanark, Scotland. More recent examples of 'everyday social innovations' include public libraries, allotments, Fairtrade, the Open University, Girlguiding, Micro-finance and the Worldwide web.[2]

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[2] Nesta web article on Everyday Social Innovations

As a **contemporary policy concept,** social innovation has been advocated as a novel approach to societal challenges since the 2000s. It was introduced into European policies in 2009 as a way of addressing economic crisis and the need for sustainable growth, job creation and strengthening the competitiveness of national economies (Chiffoleau and Loconto, 2018). The European Commission defines SI as *"the development and implementation of new ideas (products, services, models) in response to social needs and that create new social relationships or collaborations"* (European Commission, 2013, p.6) and further specified that social innovations must be "designed by and for society" and contribute to improved wellbeing. The notion of SI has subsequently gained some policy traction as a way of addressing social problems alongside economic objectives, including **new forms of state intervention** such as the use of public-private partnerships (Chiffoleau and Loconto, 2018) and the promotion of **hybrid business forms** such as social enterprise (Lyon et al., 2019).

Social entrepreneurs and **social enterprises** often play key roles as originators and drivers of social innovations (Bunduchi et al., 2023; João-Roland and Granados, 2023). Social enterprises comprise a diverse group of mixed purpose or 'hybrid' organisations that combine the approaches of the private-for-profit, civil society and public sectors in order to support a primary social or environmental purpose (Pache and Santos, 2013; Doherty et al., 2014). They often take community or cooperative ownership forms that limit the distribution of profits and assets to shareholders.

BOX 1: Social enterprise in the UK

Social enterprises utilise business and market-based approaches to trade in order to support a primary social purpose. Their varied organisational types depend on the legal forms available in the particular national context. In the UK, these can include a charity or company limited by guarantee (CLG), community interest company (CIC), community benefit society (CBS), a mutual organisation, social business or co-operative.

A broad definition of social enterprise (SE) was adopted by the UK government in 2002 to guide policy and legislation and to accommodate a diversity of organisational types and forms including both SEs with voluntary/community sector legal forms that restrict the distribution of profits and assets to shareholders and also mission-led or purposeful businesses with private sector legal forms.

Taking this broad definition, SEs comprise up to 9% of the UK business population, and have been growing, diversifying into new activities, and extending their impacts and influence (Lyon et al., 2019; SEUK, 2023).

Social enterprises are seen to have the particular capability of enabling SI due to their closeness to and understanding of the needs of the communities they serve, i.e. both communities of *place* and of *interest* (Vickers et al., 2017; Bunduchi et al., 2023; João-Roland and Granados, 2023; Rousselière, et al., 2024). Moreover, social enterprise as an alternative business form can be viewed as a social innovation in its own right and particularly, for instance, when introduced into new contexts requiring adaptive re-design of organisational structures and processes for inclusive ownership and democratic governance (Vickers et al., 2024). On the other hand, some critical scholars see social enterprise in a more negative light as, essentially, a vehicle for extending the practices of state-endorsed neoliberalism and thus undermining of public infrastructure and social welfare provision (Purna and Di Paoli, 2023).

Social innovation can also be understood as a subcategory of **responsible innovation** (Stilgoe et al., 2013; Scherer and Voegtlin, 2020; Bacq and Aguilera, 2021) which is described by UKRI as,

> *“ a process that takes the wider impacts of research and innovation into account. It aims to ensure that unintended negative impacts are avoided, that barriers to dissemination, adoption and diffusion of research and innovation are reduced, and that the positive societal and economic benefits of research and innovation are fully realised.”*[3]

The adoption of the concept of responsible innovation by UKRI appears highly significant and also congruent with the SI lens, as we further explore here in relation to the case study TUKFS projects.

With regard to the **transformational potential** of innovations, it is important to consider the **degree of novelty** of different types of innovation. Although some innovations may be completely novel or new to the world, many are best understood as novel in relation to the specific contexts (sector, place, organisation) of their introduction – including in situations which may require a level of learning and adaptation for them to be successful (Garcia and Calatone, 2003; Fagerberg et al., 2005). Although much innovation involves small incremental changes and continuous improvement to existing models, products and services, the literature on socio-technical transitions to sustainability draws particular attention to the role of **radical innovation** that has potential to transform whole industries and systems of provision (Fagerberg, 2018; Geels, 2019). This literature applies insights from innovation studies and other fields to examine how societal ‘grand challenges’ can be addressed by policy approaches variously referred to as **transformative** (Steward, 2012), **mission-oriented** (Mazzucato, 2013 and 2017) and **systemic** (Midgley and Lindhult, 2021).

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3. UKRI guidance on Responsible Innovation

Although some social innovations may remain as small-scale niche practices, **scaling-up, diffusion** and **'beyond niche'** development can include the growth of the innovating enterprise itself (e.g. in terms of turnover and employment size), the replication and adaptation of concepts and organisational models in new contexts, and open knowledge sharing to influence and potentially transform the practices of other enterprises and of policy makers at local/regional, national and international levels (Smith and Raven 2012; Vickers and Lyon, 2014; Jones and Hills, 2021). However, the literature on SI and socio-technical transitions also highlights the **path-dependent nature of institutional development**, the constraining influence of incumbent interests, and the limited powers and fragmentation of the efforts of 'niche challengers' to effect change (Silva-Flores and Murrillo, 2022). Relatedly, Purna and De Paoli (2023) point to the risk of SI's meaning and usage – i.e. as a malleable concept open to varied interpretations – being **appropriated, resisted and diverted away from its common good intentions by powerful mainstream actors and vested interests** (see also Chiffoleau and Loconto, 2018; Moulaert and MacCallum, 2019; Teasdale et al., 2020). There is therefore a need to attend to the specific sites where strategic agency needs to be exercised for the establishment of conditions amenable to transformation (Newell et al., 2021; also Scoones et al., 2015). A key question is the extent to which SI is able to break with and transform the dominant economic paradigm or can only incrementally and to a limited degree make business and innovation practices more socially responsible?

Social innovation and food systems

The research literature on social innovation in agri-food systems encompasses a range of issues and themes. These include addressing food poverty and environmental sustainability; the concept of food sovereignty; the involvement of small-scale producers within R&D processes; the role of social entrepreneurs and social enterprises as originators of creative solutions and inspirational ideas; the role of collaborative partnerships and networks; and SI as a mode of governance for transforming food systems.

The rise of food poverty and food insecurity in recent years in the UK and elsewhere has seen the growth of **charitable community food aid** in the form of **food banks** that distribute emergency food parcels. However, as a form of social innovation, such responses hark back to a pre-welfare state system of food distribution, supported by religious institutions and individual/business philanthropy, but with elements of the 'Big Society' policy narrative (Power et al., 2017; Sosenko et al., 2022). Social innovation as a way of transforming food production includes forms of **regenerative agriculture** and **agroecological principles** that prioritise tackling biodiversity loss and the climate crisis (Zeigler

Credit: Anna Krzywoszynska/H3 project

et al., 2022). As such, SI can be seen as a movement for furthering civic learning and sharing ideas about working with rather than against nature. The notion of **food sovereignty** further reflects the political nature of SI for transformational change. It mainly refers to groups of people making their own decisions about the food system and opposing the practices of global food companies and is also linked in the literature to the anti- and post-colonial struggles of indigenous peoples (Grey and Patel, 2015).

In the context of the agri-food R&D process, a key theme in the international literature relates to the **inclusion of farmers and small-scale producers** within a highly top-down process dominated by powerful corporate enterprise and well-resourced R&D institutions. A recent example is the co-creation of social innovations between agri-food companies and rice farmers in Taiwan (Huang, 2020). Colley et al. (2021) usefully review the literature on experiences of **participatory innovation** to address the needs of underserved farmers in the Global North through collaboration between researchers, farmers and others throughout the plant breeding process. As well as the achievement of agronomic improvements, many projects were found to identify goals of conservation of crop genetic diversity, farmers' seed sovereignty and avoidance of certain breeding techniques. The improved adaptation to organic farming systems in light of the principles and values of organic agriculture is identified as a key theme. However, despite evidence that participatory plant breeding has expanded crop diversity and farmer's access to improved varieties, significant obstacles include challenges in sustained funding as well as regulatory barriers to the commercial distribution of the new varieties. Colley et al. (2021) further draw attention to the need for a multidisciplinary approach to understanding the complex mix of social and political influences shaping agri-food R&D processes and innovations.

Another key theme is **social innovation as a mode of governance** (Pel et al., 2020) and the need for effective **multi-stakeholder partnerships and networks** to help orchestrate systemic change (Mair et al., 2023) that links small scale enterprises and community initiatives to larger organisations, policy and regulations. At the local and regional economy level, for instance, **producer food hubs** act as intermediaries to bring together small producers to collaborate to supply larger customers, such as wholesalers, and to respond to the needs of procurers of public services (Barham et al., 2012; Colasanti et al., 2018). **Community food hubs** aim to develop grassroots collaborative action between multiple actors to address market failures related to environmental externalities, food disadvantage and dietary health through social innovation (Le Blanc et al., 2014; Curry, 2022). Community hubs are therefore driven by solidarity and mutual aid, and often stimulated by local voluntary action (McKeon, 2015).

SI as an ordering principle for the **governance of societal challenges** is examined by Pel et al. (2020). They draw on the concept of a supportive **social innovation ecosystem** to make an international comparison of 20 transnational SI support networks (including three with an explicit agri-food focus[4]). In seeking to inform the understanding and development of SI ecosystems and networks, they suggest that the empowerment they afford rests on three main processes: (1) local embedding; (2) transnational connectivity; and (3) discursive resonance, meaning the collective process by which SI concepts, models, practices and narratives are circulated and gain wider political and scientific authority. They further identify five SI ecosystem ideal-types ranging from loosely integrated and locally focused co-creation hubs to globally connected and widely resonating political movements. The concept of transformation is further examined by Fazey and Colvin (2023). They show how 'working with resistance', i.e. from existing power holders and also the least powerful and using productive forms of conflict can be effective in supporting change. Coalitions between different actors – taking roles such as 'rebels', 'reformers', 'organisers' and 'helpers' – can help bridge the different perspectives involved, and lead to more collective approaches to change.

The potential of trans-local food networks to address the negative impacts of the global food system is critically examined by Jones and Hills (2021) in the context of the UK non-government organisation led Sustainable Food Cities (SFC) programme[5]. Their analysis of 29 of the most active member cities reveals the detailed processes through which such trans-local networks influence local food partnerships, their capacity to effect change, to sustain themselves, and to influence national and international decision-makers. Although the SFC initiatives were found to provide an important source of creative solutions and inspiration, the authors conclude that:

> “*the absence of a national sustainable food policy framework and little formal national-government recognition of local food governance together with the paucity of funding opportunities threatens the long-term viability of local food partnerships and ultimately places significant constraints on the ability of the programme to effect long-lasting, systemic change.*” **Jones and Hills, 2021, p.1**

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[4] La Via Campesina – supports family farming to promote social justice and dignity; Seed Exchange Network - protects biodiversity by defending seed freedom for integrity, self-organization and diversity; Slow Food - linking food to a commitment to sustainable local and global development.

[5] Now the Sustainable Food Places programme

The state is clearly a key strategic actor through its public policy and decision-making related to financial investment, innovation and enterprise support, regulation and standard setting, and procurement rules. Parsons and Barling (2021) usefully map the policy toolbox for food systems transformation and provide a taxonomy of the types of policy lever available to government and its agencies. However, Doherty et al. (2022) highlight the shortcomings of national policy under the previous Conservative Government and its lack of ambition to transform the UK food system, as reflected in its failure to engage with the considerable evidence base and piecemeal response to Henry Dimbleby's independent review of national food strategy and its recommendations (Dimbleby, 2021; DEFRA, 2022).

1.3 A framework for understanding hybrid organising and interdisciplinary research for social and systemic innovation

Given that innovation for social and systemic change requires effective collaboration and the combined knowledge and efforts of multiple actors, a useful framework for understanding the plurality of interests and motivations is offered by the institutional logics perspective. Put simply, **institutional logics are the norms, rules and practices that shape organisational cultures and the behaviour of individuals in diverse settings** (Friedland and Alford, 1991; Thornton et al., 2013). The three logics of the state, the market and civil society are particularly central to academic debate around SI and social enterprise.

BOX 2: Institutional logics of the three main sectors

The market and private sector business: to maximise financial return to individuals and shareholders; competition, entrepreneurialism and innovation.

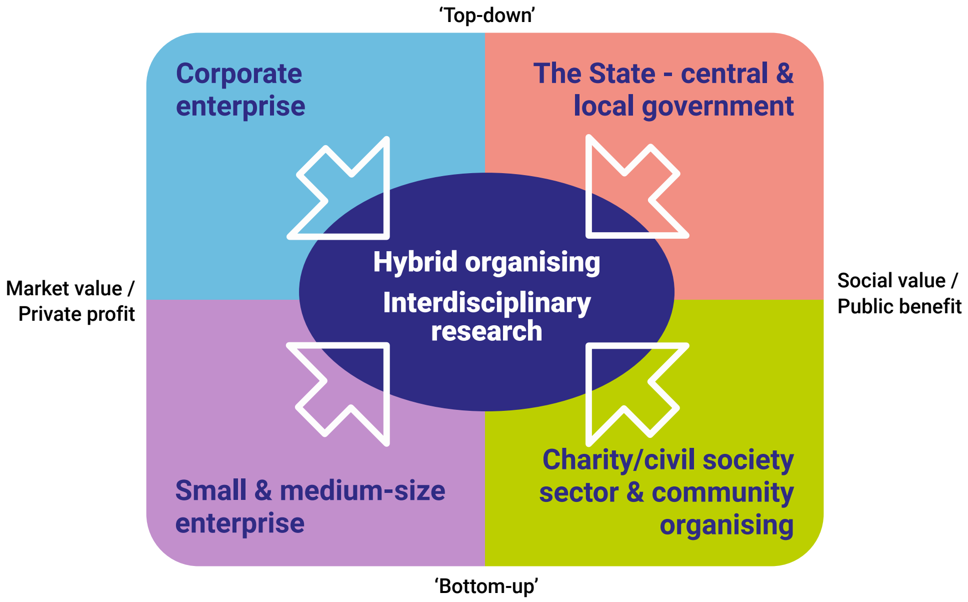
Public sector: ethos of public benefit, democratically owned by citizens and the state, funded through taxation.

Civil society: social and environmental goals, voluntarism and philanthropic funding, democratic governance.

The related concept of **hybridity** focuses on how different logics interact and become combined or blended including in ways that give rise to innovation (Pache and Santos, 2013; Battilana and Lee, 2014; Vickers et al., 2017). Organisations that do not align closely to one logic are termed hybrids and can include social enterprises (Doherty et al, 2014), universities (Townley, 1997) and hospitals (Miller and French, 2016). The concept of hybridity can be used to explore how the distinctive logics of particular sectors and organisations, although often seen as conflicting, may nevertheless cross-fertilise and blend in ways that catalyse innovation for the common good. The institutional logics framework can also be applied to the transdisciplinary research approaches that we see as a central element of SI within the TUKFS programme. For instance, Harris et al. (2024) show how people involved in transdisciplinary projects need to navigate and combine the different disciplinary logics of the natural and social sciences as well as the sectoral and professional logics of industry stakeholders.

Figure 1 presents a simple framework for understanding the three main logics of business/the market, the state, and civil society, and also with respect to the power dynamics affecting the prospects for social and systemic innovation. The horizontal axis represents a continuum between market/profit-led innovation and social/public value motivated innovation. The vertical axis captures the extent to which innovations are driven by the powerful ‘top-down’ logics of corporate enterprise and the state, or are more ‘bottom-up’, citizen-driven or enabled by civil society activists and organisations. Small and medium size enterprises as crucial bottom-up local economy actors with little or limited market power fall within the lower left quadrant. The axes represent a spectrum of positions, with individuals and organisations being subject to the prevailing logic of their sector but also the influence of other ‘challenger’ logics or alternative framings and ways of understanding. For instance, ethical business commitments and policies for corporate social responsibility (CSR) may moderate the logic of the market and private profit among agri-food businesses (Kim, 2017). On the other hand, some critical scholars see powerful corporate interests as unduly influencing and undermining the public service logic and regulatory function of the state and thereby advancing ‘neoliberal government’ and its associated negative consequences for societal welfare (Chiffoleau and Loconto, 2018; Moulaert and MacCallum, 2019; Teasdale et al., 2020; Christophers, 2022; Purna and De Paoli, 2023).

Figure 1. Institutional logics, hybrid organising and interdisciplinary research as enablers of social and systemic innovation



A key question is the extent to which synergistic combinations of the efforts of key actors in different logic domains can be harnessed to overcome path-dependency and catalyse social and systemic innovation. This also requires attention to the ways in which potentially transformative innovations are blocked, appropriated or diverted by the vested interests of powerful players, such as global/corporate food enterprises.

Hybrid organising and interdisciplinary research for responsible innovation are depicted in Figure 1 as crucial integrative forms of practice that span institutional boundaries and combine the interests and logics of multiple actors, thereby enabling learning partnerships (Mair et al., 2023) and co-ordinated action for social and systemic innovation. The current study allows us to further examine this potential in relation to the TUKFS programme and to probe more deeply into the characteristics and challenges of social innovation for healthier, more sustainable and socially just food systems.

2. Research design and methodology

An email invitation to participate in this study was circulated to the principal investigators of all TUKFS projects in early July 2023. Twelve responded and agreed to participate in the research (see Table 1). A project inception meeting held online at the end of July 2023 was attended by representatives from five of the projects. This involved an initial discussion with participants about their views on social innovation and its relevance and potential, which also helped with further refining the research approach and methodology.

Table 1. Profiles of the 12 participating projects

Consortia and larger scale projects (TUKFS Call 1):

Project name	Research aim	Lead institution
FixOurFood (FOF)	To develop vision of a Yorkshire food system constituting regenerative and equitable healthy eating for young children, supported by regenerative hybrid food economies and regenerative farming.	University of York
FoodSEqual (FSE) The Food Systems Equality project	To develop solutions to give people living in disadvantaged communities improved access to fresher food and a balance of desirable, sustainable, affordable and healthy products.	University of Reading
H3 Healthy soil, Healthy food, Healthy people	Hydroponic farming systems, regenerative agriculture and novel business models - to transform the UK food system 'from the ground up'	University of Sheffield
Mandala Consortium (MC) TransforMing urbAN fooD systems for planetAry and popuLation heAlth	Focusing on the city of Birmingham to evaluate interventions to demonstrate how food can be made healthier, more affordable and less harmful to the environment, but still profitable.	University of Cambridge

Smaller scale projects (TUKFS Call 2):

Project name	Research aim	Lead institution
BeanMeals (BM) ‘Thinking beyond the can’: Mainstreaming UK-grown beans in healthy meals	Systems innovation approach includes working with schools, families, local authorities and industry stakeholders. Mapping of ‘transformative innovations’ with a focus on enhanced local business models for ‘the missing middle’.	University of Oxford
FIO-FOOD (FIO) Food Insecurity in people living with Obesity – improving sustainable and healthier food choices in the retail FOOD environment	To improve sustainable/healthy food choices, particularly to inform retail strategies and to co-design supermarket-based interventions.	University of Aberdeen
HSD Realigning UK Food Production and Trade for Transition to Healthy and Sustainable Diets	The project takes a food systems approach through a simultaneous consideration of consumption, production, trade and supply chain implications of a transition to healthy and sustainable diets and brings together multidisciplinary expertise. Developing a blueprint for a coordinated set of policy interventions to support this.	University of Reading
SEFS Social Enterprise as a catalyst for sustainable and healthy local Food Systems	To understand, support and develop the contributions of social enterprises to local food systems that are healthy, sustainable and inclusive.	Middlesex University
SKP Sustainable King Prawn Project	Transformational blueprint for a blue economy on UK terrestrial farms: integrating sustainable shrimp production in a changing agricultural landscape contributing multiple public goods to reform UK agriculture.	University of Exeter
SNEAK Sustainable Nutrition, Environment, and Agriculture, without consumer Knowledge	Strategic menu design to promote healthier and more sustainable food consumption in outlets with weekly menus such as school canteens, and to extend the approach to commercial food outlets. Delivery of a tool that generates a 15-30% reduction in the carbon footprint of meals and their sugar, fat, and salt content, that can be implemented without consumers being aware of the changes.	University of Bristol
TFS Is cultured meat a threat or opportunity for UK farmers?	Engaging farmers and other stakeholders in co-designing and evaluating the feasibility/desirability of cultured meat scenarios. Novel interdisciplinary approach to co-design and responsible innovation.	Royal Agricultural University
TRADE TRAnsforming the Debate about livestock systems transformation	To seek a consensus on the contested role of livestock in the UK agricultural economy, balancing its market value and opportunities for innovation with less tangible contributions.	University of Edinburgh

3. Findings

3.1 Understandings of social innovation

The term social innovation was unfamiliar to the majority of interviewees, and this was also reflected in the absence of the term in most of the TUKFS project cases for support reviewed, with just two exceptions. Nevertheless, when asked what SI meant to them and how they might define it, many of the responses reveal a broadly convergent understanding, as illustrated by the following quotations:

> “*I’m a social entrepreneur and for me, social innovation is an extension of that. So it’s an innovative practice […] that is motivated to create socially beneficial outcomes.*” **SE practice partner**[6]

> “*For me it would have some implication of being for social benefit rather than purely for economic profit. […] that would be my first stab at an answer.*”

> “*If I had to translate it into a sociology, social science language, I would just say that it’s focusing on impact on people, for change in people and society.*”

> “*I suppose you capture it by saying communities working out what will most benefit their community and then doing it. So, that’s sort of co-development […] facilitating people to come together.*”

> “*It means to me that the way people look at the social reality, look at other players, look at what’s happening in their context. There has to be a reframing of that and the way they interact with others.*”

Among the projects where the term had particular resonance for interviewees – over half of them – it was seen as a concept that usefully questions the limitations of ‘top-down’ sci-tech- and market-led innovation by supporting a more ‘bottom-up’ understanding of inclusive innovation for social benefit. This may be of particular importance in policy contexts where, as observed by one interviewee, it could be applied as a ‘policy buzzword’ and form of language that engages policy makers and helps them to expand the scope of policy thinking and to legitimate and promote a broader range of possible interventions.

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[6] Anonymised quotations throughout the report are from academic researchers across the 12 projects, except where attributed to practice partners.

Another interviewee further highlighted SI's usefulness in differentiating from other types of innovation and valuing and supporting the approaches and contributions of community organisations and social enterprises. Also noted was the frequent use of the term by social impact investors, although it is notable that three of the SE practitioner interviewees were unfamiliar with the term and said they would not normally use it.

In terms of **limitations and potential disadvantages**, firstly, several interviewees highlighted the term's unfamiliarity and the danger of it giving rise to misunderstanding and confusion, as well as its nebulousness and lack of analytic clarity.

> “*it's maybe not such a good word in terms of communicating to a wider public. […] It's just not a term that resonates with people.*”

> “*it's quite a nebulous concept and can mean a lot of different things and I think that is a risk, especially in policy where you can add credibility to something without actually having it mean what it's supposed to mean in that context.*”

> “*I kind of have to think about what it might mean rather than it being a category that I use all the time.*”

A second perceived danger was of SI being advocated and perhaps over-evangelised as a substitute for beneficial sci-tech innovation. An academic gave the example of the use of the term in relation to farmers' greater involvement in participatory plant breeding, particularly in developing countries. They felt that the terms 'social innovation' and 'participatory breeding' were becoming overused and perhaps naively advocated by some academics and activists as a panacea in contexts where it may be less applicable:

> “*…social innovation almost appears to have become an article of faith […] a lot of the nuance seems to be getting lost, at least in the context of crop variety innovation, both in developed and in developing countries, and maybe also in the UK.*”

Third and finally, social enterprises and community organisations can be deterred by some of the policy language around 'innovation' - let alone 'social innovation' - and prefer to emphasise the value of established models and practices that are known to work well (although not necessarily widely adopted). They may also be critical of what they see as an obsession on the part of policy makers and some support providers with a simplistic and 'boosterist' conception of innovation:

> *"I always struggle with innovative as a word [...] What does it mean really? Is anything unique and completely different [...] No, of course it's not. We draw ideas from all over the place [...] So anything we do is yes, completely unique, because it's only here...and no, nothing's unique, because some of it has always been tried somewhere before."* **SE practice partner**

Credit: Social Adventures

Despite these areas of concern, the evidence from across the TUKFS projects generally supports a positive view of social innovation, with responsible sci-tech development being combined with SI and, in support of this, the essential role of engagement with private sector partners (e.g. farmers, processors, retailers and caterers) in order to maximise the potential for beneficial impacts. This is in line with hybrid organising and systems perspectives which seek to understand how 'top-down' and 'bottom-up' insight and contributions from a diverse range of actors holding to different disciplinary and sectoral-institutional logics and understandings may combine to catalyse transformative innovation (Figure 1).

To conclude this section, the SI concept is shown to have relevance to most of the participating projects although to varying degrees. Some interviewees expressed concerns and, in some cases, scepticism towards it as a broad and somewhat nebulous concept, and saw a danger of SI being over-evangelised as a solution in contexts where it may be less applicable. Overall, the responses reflect the complexity and malleability of the SI concept and the varied perceptions of its relevance and potential, including its complementarity (or otherwise) with sci-tech and economic/business innovation. There is therefore a need to examine in greater detail the types of SI and responsible sci-tech innovation found across the 12 TUKFS projects, to which we now turn.

3.2 Identifying social innovation across the TUKFS projects

Our review of the 12 TUKFS project cases leads us to identify three main areas (or dimensions) of social innovation practice, enablement and potential related to food systems transformation:

(i) Social enterprise and hybrid business models;

(ii) Education and behaviour change;

(iii) Systemic and collaborative (place-based) approaches.

These areas of SI activity are often overlapping and mutually supportive, with most projects combining at least two of these dimensions in order to realise their contributions.[7] This includes several projects with a sci-tech focus on developing new food products and business processes (notably BM, FOF, H3, SKP) where this can involve working closely with farmers and others in the food supply chain as well as education and consumer behaviour change initiatives to encourage acceptance and adoption of the new products and processes.

(i) Social enterprise and hybrid business models

As previously discussed, social enterprise and alternative (hybrid) business forms can be seen as social innovations in their own right, particularly when introduced into new contexts. Social enterprises are also confirmed to be important enablers of service innovations within their sectoral and community settings including by redistributing any surplus generated from more affluent areas and customers to economically disadvantaged communities (MC, SEFS). Of the 12 projects, seven were working with existing social enterprises in order to help them develop their existing or new services and processes, and the creation of new social/hybrid business start-ups was also reported as an actual or possible legacy in half the project cases (BM, H3, FOF, FSE, MC, SEFS). Examples include:

- Working with existing social enterprises:
  - SEs delivering therapeutic services and social prescribing, for example using gardening/growing and social cookery classes that promote healthy eating and seasonal/local food (SEFS).
  - A community interest company (CIC) serving healthy and sustainable takeaway food in a deprived multi-ethnic area with a ‘pay what you can afford’ social business model and redistribution of food waste from the local wholesale market (MC).
  - Developing the research capacity of SE partners by training community researchers based within enterprises to conduct research alongside academics, including by helping to organise focus groups with community members (FSE, SEFS).

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[7] An earlier version of this framework was tested - and subsequently modified - as a workshop exercise, with 22 participants providing written feedback on the types of SI that could apply to their projects and specific examples of innovations introduced, facilitated or being trialled in terms of their viability and future potential.

- Exploring new social business models and values-based food chains for urban and peri-urban horticulture at scale (H3):
  - A social enterprise box scheme to support an organic farm and low cost hydroponics as part of a values-based food chain for urban horticulture at scale.
  - Training for community groups in peri-urban hydroponics.
- Community shop/supermarket interventions to address food poverty and influence food choices among disadvantaged and minoritised groups (SEFS).
- Community shared ownership social enterprise for local authority and school food supply (FOF).

In one case, a new community interest company (CIC) was specifically created to act as an umbrella organisation that is co-owned with the project's industry stakeholders, including farmers, traders, processors and food technologists:

> *“[T]hey're all working under one umbrella [to] collaborate towards common social goals of health and environment and nutrition issues [it] is not something created by the University, by the researchers sitting on top of them, but they are all equal partners in that and they meet very frequently to understand how to shape the future.”*

(ii) Education and behaviour change

Most of the projects aim to have a positive influence on peoples' dietary habits within diverse community/service settings and upon wider patterns of consumption and provision. The approaches taken range from 'low agency' interventions designed to discretely 'nudge' consumer choice to those which seek to more directly engage and 'educate' through a variety of activities and services. Examples include:

- Collaborating with primary and secondary schools to design curriculums that encourage more sustainable food choices including higher fibre (H3) and UK grown beans/pulses as a substitute for meat (BM).
- Adapting food environments in early years and school settings, e.g. trialling a range of menus, improving the dining culture/experience (FOF, SEFS).
- Strategic design of weekly menus to promote healthier and more sustainable consumption in canteens (e.g. schools and hospitals) with a view to extending to commercial food outlets. Importantly, these changes can be implemented without consumers noticing (SNEAK).
- Consumer behavior change encouraged by promoting the use of healthy start vouchers, switching to recipe boxes, changing offering in convenience stores (MC) and social cooking courses to increase fibre (H3).
- Social enterprise approaches to engage and educate about healthy diets and sustainability within diverse settings, e.g. community hubs, health, fitness and recreation services, organic growing/horticulture and therapeutic services (social prescribing) (SEFS).

- Developing games for children designed to promote understanding, e.g. a Carbon Tuckshop game to introduce children (and parents) to the environmental and nutritional impacts of different food items (SEFS) and Beantopia game (for children and for policy makers) to develop understanding of the food system and the value of beans/pulses as part of a healthy and sustainable diet (BM).


Credit: BeanMeals

One challenge reported with educational approaches is how best to engage individuals in such a way as to balance 'showing versus telling' (SEFS). The children's games developed by two of the projects appear to offer creative and enjoyable ways of addressing this tension. It is also notable that these and other projects use interventions targeted at children in early years' and school settings as a gateway to influencing the consumption patterns and food cultures of parents and disadvantaged/poor households (e.g. BM, FOF, H3, SEFS). Other behaviour change approaches involve more discrete and 'low agency' mechanisms designed to make as few demands on individuals as possible. Such approaches appear to have considerable potential to influence healthier and more sustainable consumer choices if successfully scaled-up and widely replicated in public and private sector food settings (e.g. MC, SNEAK).

(iii) Systemic and collaborative/place-based approaches

Unsurprisingly, given the objectives of the TUKFS programme, many of the projects take a broadly systemic approach which is often closely linked to new collaborations with a range of non-academic partners and is sometimes placed-based, i.e. with a focus on a particular city or region (BM, CTG, H3, FOF, MC, SEFS). This can be seen to link with the governance dimension of social innovation as a process of soliciting and orchestrating the contributions of multiple actors (Mair et al., 2023) as well as the notion of a supportive and joined-up SI ecosystem (Pel et al., 2020).

Some interviewees particularly emphasised a **whole systems philosophy**[8] as being integral to their innovative approach (notably BM, H3, MC, SKP).

> “*Our project is actually very much centred on a concept called systemic innovation […] the idea that you cannot innovate in parts of the system separately, or look at innovation merely as a technological thing. […] So, in a sense, a social innovation happening within the interdisciplinarity of the project […] particularly so in terms of looking at the whole enterprise ecosystem. […] how are we going to create an ecosystem that is fair, that is ethical, that is sustainable.*”

> “*The key novelty is that we've taken this kind of whole systems approach. […] So it's quite kind of speculative and we did that absolutely deliberately because we felt the most important thing was to work with stakeholders to identify the challenges in the food system […] And so there's a strong element of co-design […] and a very kind of, open and evolutionary approach to research is probably its main novelty.*”

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[8] For example see Midgley and Lindhult (2021)

Many highlighted their **new collaborations** in terms of bringing together different academic disciples from both natural science (e.g. genetic botany, agricultural/environmental modelling, food technology) and social science (e.g. sociology, anthropology, psychology and behavioural science, environmental economics, business administration, innovation studies) (BM, FIO, FOF, H3, MC, SEFS, SKP, SNEAK). Many also emphasised the involvement of practice partners from industry and civil society organisations in the **co-design and conduct of the research** (FIO, FOF, FSE, H3, MC, SEFS, SKP, SNEAK) and also including public sector actors in some cases (BM, FOF, MC, SEFS).

> “*….we're always trying to be the interface, that's what's exciting about working with programmes like [this project]. That's what we see as being innovative, is that interface between academic research, rigorous peer reviewed research and the kind of the messy real world out there that doesn't always just follow the rules.*” **SE practice partner**

Over half the projects emphasised the **enabling of ‘bottom-up’ neglected voices** and understanding the lived experiences of people as consumers and users of food, health and wellbeing services as a crucial innovative dimension (FIO, FOF, FSE, H3, MC, SEFS, TFS). In most of these cases, social entrepreneurs and social enterprises were playing a key bridging role with their local communities including disadvantaged and vulnerable groups. The ‘silent voice’ of the environment and the biosphere as a neglected stakeholder was emphasised by one interviewee but also appeared to be implicit in the rationale and design of most projects.

Examples of applied systems, multi-actor and place-based approaches include:

- Contributing to the development of local/regional supply chains, partnerships and networks, e.g. including local authorities and deliverers of public services, social enterprises and community organisations, small farmers/producers, and larger industry/corporate stakeholders in some cases:
    - Place-based food system focused on healthy eating for young children, supported by regenerative hybrid food economies and supply chain developments. This includes a vertically integrated business from farm selling direct to consumers and Yorkshire Grain Alliance involving millers and bakers joined-up with farmers to support production of high quality grains with low inputs and locally processed (FOF).
    - Full food system approach for ‘fork from farm’ changing farming practices and influencing Leicester City and Leicestershire County Council Food Plans (BM).
    - Local food partnerships in Birmingham (MC), Bristol, Rotherham, Sheffield + regenerative agricultural systems in South West and East England (H3).
    - Diverse SEs embedded in and helping to develop local food systems/networks across England, Scotland and Wales (SEFS).
    - Supporting the work of civil society and public sector organisations to develop local food strategy and local food policy campaigns (FSE).

- Low-cost hydroponics – looking at how this relatively low tech innovation can be integrated into the UK food system by building its acceptance and interface with local communities and addressing regulatory/certification issues (H3).
- A city wide logistics initiative for food delivery developed during Covid pandemic for Glasgow (SEFS).
- Developing new food products in consultation with local communities in deprived urban areas in London and South England (FSE)
- Logistics hub / digital platform for fairer and more efficient distribution of surplus food as a potential response to the challenge of increasing demand and declining donations in the context of a cost of living crisis (MC).

For innovation to be genuinely transformational, central and local government are key 'top-down' actors with the power to drive social and systemic innovation through strategic investment and policy co-ordination. Examples of TUKFS project contributions to evidence-based public policy development include:

- Public procurement as a lever for change, including food hubs for provision of local healthy food within public/institutional catering and menu change in schools and hospitals (BM, FOF, MC, SEFS), e.g.:
    - Trialling high fibre foods in school breakfasts, particularly for disadvantaged communities (H3)
    - Changing farming practices (BM, FOF, SKP) and use of public money such as DEFRA's Environmental Land Management Scheme (H3).
- Variable business rates based on health/environmental criteria - exploring the potential of this (MC).
- Fiscal and trade policy measures to support supply chain innovations and industry-led initiatives – testing consumer responses to different options (HSD).

The examples given under all three of the above categories of SI practice, enablement and potential underscore the importance of collaborative and hybrid organisational working that spans sectoral boundaries and promotes mutual learning within collaborative partnerships. They also show how SI can complement other types of innovation – variously referred to by participants (for instance) as economic, technological, marketing or value-chain innovation - and thus contribute to the overall public/social purpose aims of the TUKFS programme.

Credit: Dan Kluens/LettUs Grow

3.3 Challenges and future support needs

In thi section we examine some of the experiences of developing the TUKFS agri-food innovations and what further social innovation and related support and policy/regulatory change might be needed to fully realise their potential. First, we focus on the experiences of interdisciplinary and hybrid organisational (cross-sector) working, given their centrality to SI as a process for collaborative governance and orchestration of the contributions of multiple actors. Second, we consider the transformational potential of the agri-food innovations in relation to the wider institutional challenges faced – i.e. the more structural market and policy/regulatory barriers – and participants' reflections on these.

Experiences of collaborative and hybrid-organisational (cross-sector) working

As previously shown, a key strength of the TUKFS projects is how they have been able to co-develop innovative ideas through novel interactions and collaborations between academics from different disciplines and with partners in the civil society, private and public sectors. At the same time, new collaborations have given rise to new challenges.

In terms of experiences of interdisciplinary collaboration between academics from both the natural and social sciences, it appears that these have been largely positive and, indeed, critical to avoiding the pitfalls of narrowly conceived 'technical fix' approaches and a research-intensive agri-food sector that "moves too fast, Silicon Valley-ish", by bringing neglected voices into a more inclusive and reflective innovation arena. Several social science interviewees emphasised the positive nature of the interdisciplinary working experience compared to some of their previous experiences:

> “*There was an ambition of [...] having an interdisciplinary approach which is I think quite unusual [...] interdisciplinary projects are often led by hard science and then social science is an add-on to do some behavioural science for example. [...] I found it quite positive in terms of a focus on the social.*”

> “*Everyone [is] equally valid, and social scientists given as much credit as natural scientists [...] I've been on many 'interdisciplinary' projects, including one time where I went to a first meeting where the PI said, 'See you in four years' time' – we were only needed for the grant.*”

The latter interviewee was involved in co-designing the project from the beginning:

> “*Initially it was more about 'will it make money'? But that wasn't particularly exciting to me [...] I shaped the proposal to include the environmental benefits.*”

With respect to hybrid or cross-sectoral working, a majority of the projects (two thirds) were working with private sector actors, including farmers, processors, caterers and retailers (BM, FIO, FOF, HSD, SKP, SNEAK, TFS, TRADE); just over half were collaborating with civil society organisations and social enterprises, and nearly half were working with government policy actors and delivers of public services (BM, FOF, FSE, MC, SEFS). Many projects had an explicit concern with equity and the equity related implications of their proposed interventions, with some being particularly focused on food disadvantaged and vulnerable groups (e.g. people living with obesity – FIO) and making a particular priority of enabling 'bottom-up' and minoritised voices often via the involvement of community and civil society organisations (FSE, MC, SEFS).

Participants spoke of the constructive nature of their experiences and of high levels of goodwill and cooperation among project partners and other supportive stakeholders:

> “*All the things I attended were just really interesting. [...] to hear lots of people's opinions and learn from them. [...] I learned more and also felt empowered to speak [...] To know that we're not in it alone, I mean, we're part of this big food justice network as well. And being part of a powerful community helps, and I think that was the same with this research.*”

> “*I think there's a lot of goodwill [...] when we're talking for about [...] things not being siloed, I think the projects are quite, you know, the boundaries are quite poor. So when [...] projects like ours are up and running, you're not pushing for help [...] people are willing and cooperative.*”

> “*I kind of have to think about what it might mean rather than it being a category that I use all the time.*”

In some cases, sourcing and shaping ideas had involved working groups to assess a range of options in light of multiple criteria related to health, environmental sustainability, economic viability and impact potential:

> “*We spent quite a lot of time as a research team to workshop the criteria we would need to apply to choose interventions [...] Does it address both sustainability and health? Does it improve equity is another consideration [...] We're also keen on interventions that are what we call low agency, so they make as few demands on individuals as possible [...] another one [...] is economic viability. It's got to be something that is affordable that can be delivered. So we've tried to choose things that are potentially scalable.*”

> “…we [had a] pre-application writing workshop over two days, and I remember that writing workshop being really quite challenging at times with lots of different voices in the room. What was really useful about that is that everyone was very honest and very open and stuck all their prejudices, as it were, on the table for others to see, and then we worked out how we deal with them.”

In two cases (FSE and SEFS), previously established relationships with the social enterprise partners were key to involving them in the co-design of the research and writing of their cases for support. Allocation of project funding to these organisations has also been important in enabling their engagement in the delivery of the projects, including by shaping the research to address their own needs and strategic challenges and by funding community researchers within these enterprises to work alongside the academics.

But the benefits of hybrid cross-sectoral collaboration have also been accompanied by challenges. These include the limited resources and capacities of smaller partner organisations, the slowness and time-intensive nature of novel co-production processes, and the misunderstandings and tensions that can arise given the plural perspectives and mixed institutional logics involved.

First, many community organisations and social enterprises are severely resource-constrained and particularly so in an era of public sector austerity affecting many deliverers of community services and with the cost of living crisis affecting their customers and volunteer/donor base.[9] One practitioner felt that their ability to participate had been restricted by the relatively small amount of project funding allocated to the SE partners. An academic with another project further highlighted the fragile financial status and limited capacities of many small community organisations and the danger of people working or volunteering with them becoming burned out if overly demanded of:

> “Their funding is fragile […] And I think that leads to a related point, which is the potential burnout for the people involved. Lots of them are doing this on top of their day job or they’re retired people or whatever. And often in these smaller organizations, it’s one or two dedicated people who keep things going and you do worry for their health and wellbeing.”

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[9] The State of Social Enterprise Survey (SEUK, 2023) shows that, although many SEs are performing relatively well compared to other small enterprises, many are also only just surviving rather than thriving. See also Gray and Barford (2018) and Marmot, et al. (2020) on the impact of the extended period of public sector austerity on local authorities and public services.

Interviewees further identified that change is needed to shift the university and public funding landscape to be more supportive of SI through interdisciplinary research, including through better funding provision to engage and support SEs and community organisations in the design and delivery of projects.

Second, co-development processes can be frustratingly slow, and it can be difficult to arrive at collectively agreed decisions and outcomes given the plural and sometimes divergent perspectives involved:

> “*Co-development is quite slow…and it can feel quite indecisive. Something I often struggle with is [people] take a long time to make decisions […] Sometimes you have to find a solution that a lot of people are comfortable with, but you won’t always find a 100% consensus. I think that’s a challenge of co-production […] it’s slow and assumes that there is a solution that everybody can get on board with.*”

> “*It is time consuming, and I would say, you need dedicated staff to facilitate that, and yeah, their valuation was something else. I picked up on how to evaluate, if that’s successful and why would you say that.*”

Some participants reflected on how cross-sector collaboration can give rise to misunderstandings and tensions. In one project, for instance, it emerged that practice partners felt that the academic researchers were ‘on a mission’ to convert people to a particular vision of sustainable food, and the academic researchers had had to reassure them that this was not the case. Confusion and misunderstanding may arise from different ways and styles of communicating and require patience and sensitivity to overcome.[10] One academic reflected on the need for project teams to develop the capacity among partners of being open to appreciating and learning from different perspectives that may conflict with their own strongly held views:

> “*There are bound to be clashing viewpoints […], conflicts [and] trade-offs […] and the only way those can really be resolved is if people rework their perspectives and appreciate other perspectives […] I think these challenges, unless they are touched, we will not have social innovation or systemic innovation […] So also, in looking at a topic like social innovation, you may have a very theoretically inclined person tearing it apart. You may have a very grassroots, community-oriented person saying, ‘I don’t care about your theory, this is how I do it and this is the [only] way to do it.’ So that’s a danger. […] can I continuously dialogue with those other views which I don’t agree with? And can I be alive to other views [and] to other things happening in the world and constantly allow myself to reframe it?*”

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[10] For reflections on some experience of ‘working differently’ within the SEFS project, see: Learning to work differently: reflections on transdisciplinary research and Exploring social enterprises’ engagement in transdisciplinary research: a reflective analysis.

This shows the importance of the collective-deliberative capacity to understand and learn from different perspectives, especially where more fundamental tensions arise from the different logics and framings (or ways of understanding) involved. Moreover, building effective collaborations based on trust and mutual learning needs time and skilled facilitation, and some interviewees called for this to be better recognised and supported in future UKRI transdisciplinary research calls.

Credit: London Early Years Foundation

Scaling-up and diffusion – wider institutional challenges and support needs

Social and systemic innovation includes the processes of scaling and diffusion, such as by replicating and adapting concepts and organisational models in new contexts, as well as open knowledge sharing to influence the practices of other enterprises and of policy makers at local/regional, national and international levels. The larger projects in particular have elaborated 'pathways to impact' in their project cases for support, as required by the TUKFS programme call. This includes addressing the anticipated risks and barriers to proposed interventions and their potential to be transformative, e.g. by having a clear theory of change and building in evaluations of the realism/practicality and impacts of novel interventions as a key aspect of the research design (e.g. BM, FOF, H3, MC).

As previously discussed, the literature on sustainability transitions and SI highlights the constraining influence of path-dependency and the relative powers of incumbent interests vis-a-vis innovative and potentially transformative niche challengers. Similarly, participants identified a range of institutional challenges and barriers to the wider take-up of their agri-food innovations that they were variously seeking to address, including:

- How to create routes to market and stimulate effective demand for novel/alternative sources of protein and fibre.
- The affordability of alternative healthy local/sustainable food produce, particularly for less affluent consumers.
- The difficulty of small producers gaining access to supply chains and/or competing with large producers and retailers.
- How to engage and involve diverse communities in local food and related wellbeing initiatives, including disadvantaged and minoritised groups.
- The limited resources/funding available for civil society community organisations to respond to the scale of food poverty and need during a cost-of-living crisis, including the shortage of volunteers and donations.
- How to measure and demonstrate beneficial contributions to social/environmental value to public service commissioners[11] and supportive social/ethical funders.

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[11] The Public Services (Social Value) Act which came into force in 2013 gives commissioners and procurement officers permission and encouragement to assess bids based on social value as well as 'value for money' and financial efficiency.

As previously indicated, in an era of austerity and economic stagnation, scaling and diffusion processes require resources that are severely constrained across the public, civil society and small business sectors. Regarding the latter, new and early stage enterprises struggle to raise capital from investors as they lack a track record. One academic reflected on the need to avoid their TUKFS intervention becoming a 'white elephant' and how they were therefore seeking to embed it as a viable business model within their partner organisations and local economy context:

> *“There's always been a sort of sense of clever academics coming along, inventing something and then walking away because their grants finished and communities can end up, well literally, with the cost of having to dismantle and remove things. So those enterprises are getting better at asking the right questions early on and I think academics are getting better at being a bit more responsible about longer term implications for the work we do.”*

Credit: Edinburgh Market (CC BY-ND 2.0)

Scaling can also be challenging because of the dominance of the major food retailers and their control of 'routes to market':

> *“If they scale up one of the barriers to this is what they call routes to market. So they produce something innovative and some organic product or whatever it is. [...] They might be able to sell it to a few local shops that are veggie or whatever. But to get into a supermarket is a massive challenge and if they do get into a supermarket, they have to meet all kinds of criteria that kind of undermine what they're about in the first place.”*

Positive strategies for market access in some cases have involved developing vertically integrated supply chains to create new markets 'from farm to fork' for local/regional food, e.g. to include farmers, processors, distribution, retail and caterers within an integrated and values-led supply chain (e.g. FOF).

In the case of projects developing plant-based and alternative sources of protein with low carbon footprints, such innovations appear to have considerable potential to open up new opportunities and income sources, including for small scale farmers in marginal economic contexts who may be dependent upon ongoing state subsidy for their survival. However, interviewees were particularly concerned about the policy-institutional challenges to realising such agri-food innovations. One academic anticipated the risk of their innovation – an alternative protein source - being co-opted by wealthier farmers and businesses. This interviewee felt that:

> *“smart, innovative government […] thinking in a joined-up way” would be needed to support the wider take-up of the innovation and to provide smaller farmers with more sustainable livelihoods while reducing the environmental harm associated with their existing business model and practice.”*

Overall, the range of challenges identified suggests that a significant number of the TUKFS agri-food innovations will likely require further support beyond the end of their project contracts. Many projects have anticipated this need by having strategies in place to engage policy makers and, in some cases, by including public sector actors as project partners from the design/inception stage. On the other hand, some projects appear to have been influenced by an understanding that the scope for supportive policy interventions, such as taxes and other regulatory measures designed to support industry and consumer change[12], was likely to be limited and perceived to be unacceptable under a policy regime that has tended to prioritise ‘consumer choice’ and deregulation.

Experiences of working with the public sector were often described in positive terms of a high level of cooperation and support from particular individuals including senior local authority officials. One project, for instance, was working with 20 local authorities to promote active sharing and learning from each other as they developed tools and processes to deliver new policy and practices related to schools and public procurement (FOF). However, policy/institutional complexity and rigidities, including procurement policies that favour a small number of corporate players, were of particular concern for some interviewees, as illustrated by the following comment from one academic:

> *“So the room for things to be organic, to be adaptable, to be local, to be decisions to be taken by people is shrinking. So this is somehow preventing this type of upscaling taking place. Yeah, it’s a very serious challenge, because we have very senior people at the county level and at the City Council who, almost every month they attend meetings with the project, they are pushing for this project. They are giving us full support. They want these changes to happen. […] they have been at the forefront of many*

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[12] For instance, as recommended by the National Food Strategy Independent Review (Dimbleby, 2021; Doherty et al., 2022).

> *changes related to local supplies and food and waste, they're very keen on doing all of this, but even they are not able to influence these kinds of decisions and other policy changes that are centralising so massively.*"

To conclude, the interview accounts indicate that the barriers to scaling-up and replicating many of the TUKFS agri-food innovations for wider public value and social benefit remain considerable, suggesting a need for further investment and support in many cases, including from the state as a more proactive strategic actor. As well as further financial investment, this could include changes to regulations and standard setting, and better strategic policy co-ordination to support their wider take-up by creating a more 'level playing field' for healthier and more sustainable food products and processes.

Credit: Fran Halsall/Regather Limited

4. Conclusions

This report has critically examined the concept of social innovation by reviewing its practice and potential in the context of the TUKFS research programme. A key question we have attempted to address is the extent to which SI is able to help break with and transform the current dominant practices of the agri-food industry and address the limitations of existing public policy towards dietary health, wellbeing and sustainability. The findings reveal how 12 case study TUKFS projects have provided novel interdisciplinary and hybrid cross-sectoral spaces that creatively combine the expertise of academics and, in many cases, partners from the civil society, private and public sectors. The study reveals many examples of novel initiatives and interventions across the 12 projects that could be described as social innovations, although these were not always described as such by interviewees. Overall, the views of participants can be said to reflect the complexity and malleability of the SI concept and the varied perceptions of its relevance and potential.

Rather than social innovation being an ‘alternative’ to sci-tech based innovation, the concept of systemic innovation which combines responsible sci-tech innovation with SI may best capture the philosophical approach underpinning many of the TUKFS projects. This is supportive of the hybrid organising and systems perspective which seeks to combine ‘top-down’ with ‘bottom-up’ insight and contributions from a diverse range of actors holding to different logics or cultural norms that frame how they understand and respond to the challenge of food systems transformation (Figure 1).

It is beyond the scope of this study to fully assess the effectiveness of the diverse approaches to SI adopted by the TUKFS projects and their longer term impacts. However, for innovation to be genuinely transformational, central and local government are key ‘top-down’ actors with potential to drive social and systemic innovation through financial investment, co-ordinated policy support and regulation/standard setting. Although local authorities are shown here to be pivotal SI enabling actors at the local/regional economy level, over a decade of central government imposed ‘neoliberal’ policy and public sector austerity has had damaging impacts on the capacities of local authorities and deliverers of public and community health and wellbeing services (Gray and Barford, 2018; Marmot, et al., 2020) and upon the supportive ecosystem for SI and social enterprise (Lyon et al., 2019; Vickers et al., 2022; SEUK, 2023). It remains to be seen whether the policy stasis affecting food (Doherty et al., 2022) and related areas of public policy in recent times may be coming to an end and whether the recent change of government will see greater scope for the development of smarter and more joined-up evidence-based policy and support for agri-food SI, as called for by some of our TUKFS participants. The developing multi-stakeholder networks and plans for local/regional food across the UK, to which some TUKFs projects have been making valued contributions, also appear well placed to respond to the challenges and future opportunities for social and systemic innovation.

With regard to policy towards research funding, the findings show how publicly funded research can drive SI by tackling crucial questions and knowledge gaps that are unlikely to be addressed by the private sector or resource-constrained civil society organisations alone. A focus on SI can help ensure that publicly funded research investments are impactful and have particular regard for disadvantaged and minoritised communities. Research funding that considers social innovation can also support the development of transdisciplinary and participatory approaches by building the capabilities of academic researchers and partners from civil society, industry and the public sector. However, the experiences of the TUKFS projects also reveal the challenges of building effective collaborations based on trust and mutual learning, and this needs to be better recognised and supported in future UKRI transdisciplinary research calls.

Finally, this study has identified a number of implications for good practice in the design and conduct of responsible transdisciplinary research that combines the knowledge of academics from different disciplines with the understandings of community organisations, businesses, policy makers and citizens.[13] These implications are presented below as a set of questions focused around three stylised stages of transdisciplinary research for social innovation.

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[13] See also the excellent Research for a Future toolkit developed by Faculty for a Future, an international group of academics, activists, and research consultants.

BOX 3: Questions to guide transdisciplinary research for social innovation

At the start

Engaging with diverse people and perspectives to develop the research ideas

- Where can research ideas come from? From what discipline / background, and geography?
- Who might the different stakeholders be in relation to this research?
- Have you considered non-human stakeholders? And those geographically distant?
- How can you enable a variety of stakeholder perspectives to contribute meaningfully before the research begins?
- How many different types of stakeholders can you get to help shape a research proposal?
- How can you bring differing views together to decide on the focus of a project when there are differing opinions regarding the potential to help transform the UK food system?
- How can you learn from one another and not reinvent the wheel? (nb you may find that stakeholders think something similar has been done before but used different terminology)
- What criteria can you use to select ideas for further development?

Once in the flow

Developing innovations

- How can you maximise the social impact internally - within the research programme - for each researcher / practice partner?
- What does meaningful work translate as during this research programme, in the context of transforming food systems, such that each participant becomes an advocate for the research?
- What processes can be put in place to help build and maintain relationships between different researchers, and between researchers and stakeholders? What do these processes require (time, money, skills, physical or virtual space)?
- How can you manage expectations of different stakeholders regarding the time frames and expected outputs?
- How can you minimise the risk of stakeholder burnout?
- What outcomes do each stakeholder group want from their involvement in the research? Are these outcomes social, commercial and/or environmental?
- How can you use the processes above to help enable these outcomes to fruition?
- What opportunities are there to publicise the research process and findings in real time, in a way that catalyses further learning and engagement with the public, stakeholders and academia, and further build trusted relationships between participants?

Beyond the project end

Achieving wider impact by embedding innovations, scaling-up, replication and knowledge sharing

- What is the legacy of the project in terms of food systems transformation? Who is in charge of this legacy?
- How can organisations be supported, or new enterprises set up, to expand the reach of an innovation?
- How can the depth of impact be increased to have deeper scaling of impact on individuals and communities?
- Who owns the innovation and are there any intellectual property rights? Can the social innovation be freely shared to maximise social impact?
- How can you build upon the relationships developed throughout the project to widen the scope of the impact?
- How can scaling up be financed? What are the options from grants, loans, equity investment or use of surplus from enterprise trading?
- Can your research outcomes and/or processes provide advice to or influence more stakeholder groups and general public, from both an academic and stakeholder voice? What do you need to achieve this?
- Are there any more formal strategic partnerships that could further develop research outcomes for wider food systems transformation?
- How can you and other organisations promote the social innovation to maximise the chance of impact?
- What have you learned from the project as a whole that you can embed in future research? What do you need in order to do this?

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